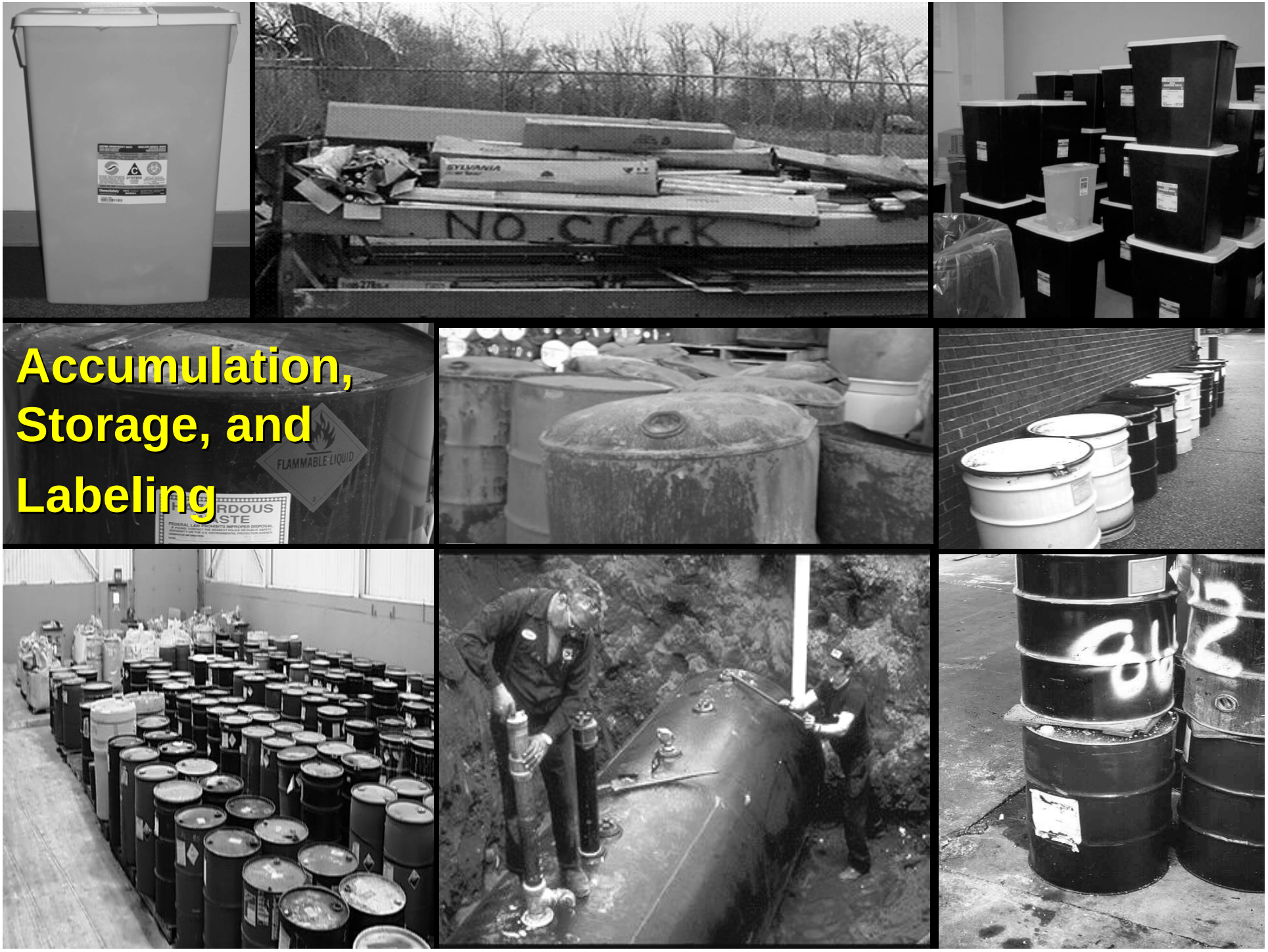
Accumulation, Storage, and Labeling
SYLVANIA
NO CRACK
FLAMMABLE LIQUID

# Michigan Environmental Compliance Conference

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# Environmental Assistance Center (EAC)

**Phone:** 1-800-NO2-WASTE
(1-800-662-9278)

**Hours:** 8:00 am to 4:30 pm
Monday – Friday

## Compliance Assistance Services Include:

- Air
- Waste
- Water
- Storage Tanks
- Environmental Audit Privilege
- Brownfield Redevelopment
- Site Remediation
- Permit Coordination

DEQ

# Waste Session 2

## Generator Accumulation, Storage, and Labeling Requirements

# Why Cover These Topics

## Hazardous waste regulations…

apply to all businesses, including municipalities, hospitals, and service industries, not just manufacturing industries

are written broadly to address hazards posed by all waste streams

# Why Cover These Topics

**Hazardous waste regulations require each business to…**

properly label all containers of hazardous and liquid industrial waste

properly store all containers of hazardous and liquid industrial waste to prevent the escape of any constituents into the environment

# Why Cover These Topics

**Proper accumulation and storage will…**

- prevent release to the environment
- prevent costly clean up expenses

# Waste Labeling and Storage

## Regulations requiring container labeling and proper accumulation and storage:

Act 451, Michigan Natural Resources & Environmental Protection Act:

- **Part 111, Hazardous Waste**
- **Part 121, Liquid Industrial Waste**
- Part 115, Solid Waste
- Part 169, Scrap Tires

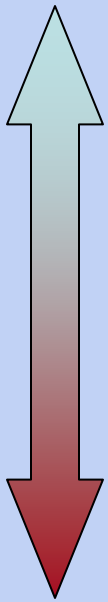
Act 368, Michigan Public Health Code:

- Part 138, Medical Waste Regulatory Act
- Part 2, Ionizing Radiation Rules

Federal Toxic Substance Control Act (TSCA)

# Hazardous Waste Generator Status

Less Regulation



More Regulation

**Conditionally Exempt Small Quantity Generator (CESQG)**

**Small Quantity Generator (SQG)**

**Large Quantity Generator (LQG)**

# Conditionally Exempt Small Quantity Generators (CESQGs)

Waste must be stored in closed containers or tanks

Accumulation area must be protected from weather, fire, physical damage, and vandals

Waste must be accumulated so that constituents cannot escape by gravity into soil (directly or indirectly), into surface water or ground water, into drains or sewers, or to the air in violation of Part 55

# Conditionally Exempt Small Quantity Generators (CESQGs)

No time limit for hazardous waste accumulation

No container labeling required

No secondary containment required

Must have:

- inventory records to prove CESQG
- never accumulate 2,200 lbs or more

# Small Quantity Generators (SQGs)

## Containers must:

- Be labeled “Hazardous Waste”
- Have accumulation date (visible)
- Have hazardous waste numbers
- Be in good condition
- Be stored closed
- Be handled and stored to prevent leaks
- Be inspected weekly

# Small Quantity Generators (SQGs)

## Containers must:

- Be compatible with the waste
- Be separated from each other if incompatibles
- Be washed if they previously held incompatibles
- Have secondary containment if

  > 2,200 lbs

# Large Quantity Generators (LQGs)

## Containers must:

- Be labeled “Hazardous Waste”
- Have accumulation date (visible)
- Have hazardous waste number(s)
- Be in good condition
- Be stored closed
- Be handled and stored to prevent leaks
- Be stored 50 feet from property line if ignitable and/or reactive (written local FD approval if less)

# Large Quantity Generators (LQGs)

## Containers must:

- Be inspected weekly
- Inspections must be documented (kept on-site 3 years)
- Be compatible with the wastes
- Be separated from each other if holding incompatibles
- Be washed if previously holding incompatibles
- Have secondary containment

# Generator Storage/Accumulation

## Time Frames

### SQGs

- Generate ≥ 220lbs and < 2200 lbs non-acute monthly
- Accumulate not more than 13,200 lbs
- Store 180 days or less

### LQGs

- Generate ≥ 2200 lbs non acute or ≥ 2.2 lbs acute or severely toxic monthly
- Store 90 days or less

# Secondary Containment

## Same for SQGs and LQGs

**For Small Quantity Generator -**

Part 111, Rule 306(4)(b) refers to 40 CFR 264.175

**For Large Quantity Generator -**

Part 111, Rule 306(1)(a) refers to 40 CFR 264.175

# Secondary Containment

## Same for SQGs and LQGs

## Secondary Containment for Containers must:

- Have an impervious base free of cracks
- Be sloped or otherwise designed to elevate/protect containers from liquids
- Hold 10% of total container volume or volume of the largest container whichever is greater
- Prevent run-on unless of sufficient capacity
- Have accumulated liquids removed to prevent over-flow

# Satellite Containers

## Same for SQGs and LQGs

**Must be accumulated *at or near the point of generation* and containers must:**

- Be < 55 gallons (non-acute, all types) or
  < 1 quart if acutely/severely toxic
- Be under the control of the operator
- Be labeled “Hazardous Waste”
- Be labeled with either the hazardous waste number(s) or chemical name

# Satellite Containers

## Same for SQGs and LQGs

**Containers must be:**

- In good condition
- Compatible with the waste in them
- Closed when not in use
- Managed to prevent leaks
- Marked with accumulation date when exceed limit (55 gallon/1 quart)
- Moved to storage area within 3 days of marking accumulation date

# Satellite Containers

## Same for SQGs and LQGs

Satellite container requirements do not apply to:

- Universal wastes
- CESQG hazardous waste

Multiple satellite containers can be in same room - must meet satellite container requirements

Should tape off satellites in close proximity to clarify satellite area boundaries

# Container Label Examples

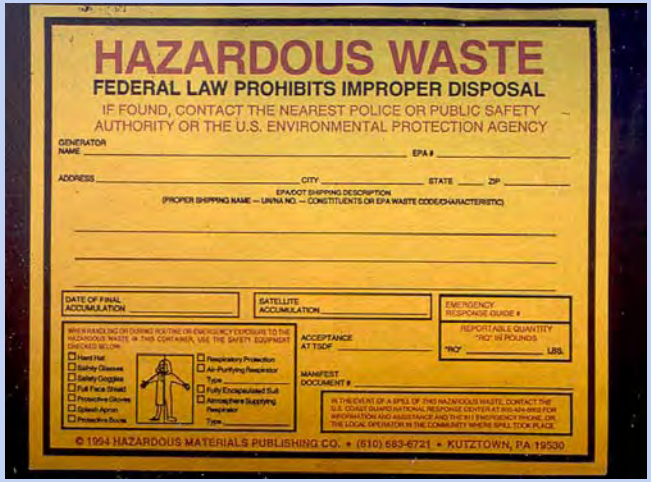
**Note proper accumulation dating requires month, day and year**



**Satellite Labels**

# Container Label Examples


Accumulation Label




Shipping Label

# Shipping Label

## Shipping label includes:

- Words "Hazardous Waste”
- Disclaimer contact police or US EPA if the container is found
- Generator info (site ID, name and address)
- Uniform manifest number
- DOT information (shipping name, the United Nations/North American (UN/NA) ID Number

# Liquid Industrial Waste

***NO LABELING REQUIREMENTS***

## Part 121, Section 12113(1) –

**All vehicles, containers and tanks must be:**

- closed or covered except when adding or removing waste
- protected from weather, fire, physical damage and vandals
- exteriors of vehicles, containers and tanks must be kept free of LIW and its residues

## Part 121, Section 12113(2) –

- LIW must be managed to prevent release to soil, surface water, groundwater, drain or sewer

# Used Oil

## Part 111, Rule 810 –

### Used oil must be:

- Only stored in containers or tanks
- Stored in containers in good condition with no visible signs of leaks
- Labeled “Used Oil” if stored in a container or above ground storage tank
- Have fill pipes used to transfer used oil labeled “Used Oil”

# Used Oil

# Universal Wastes

Michigan universal waste types include batteries, pesticides, mercury containing devices, electric lamps, antifreeze, consumer electronics, and pharmaceuticals

Enjoy streamlined standards allowing for 1 year accumulation and are not included in generator status determination

# Universal Wastes

**Michigan only universal waste types include:**

- Pharmaceuticals
- Consumer electronics
- Antifreeze

**All universal wastes must be:**

- Labeled per Part 111, Rule 228 (except pharmaceuticals, mercury devices other than thermostats)
- Kept closed (exception e-waste)
- Placed in compatible structurally sound packaging (exception e-waste)
- Managed to prevent release

# Universal Waste

## Antifreeze

### Containers must be:

- Labeled “Universal Waste Antifreeze,” “Waste Antifreeze,” or “Used Antifreeze”
- Kept closed
- Structurally sound and compatible with the contents
- Managed to prevent leaks or releases to environment

# Universal Waste

## Batteries

### Containers must be:

- Labeled “Universal Waste Batteries,” “Waste Batteries,” or “Used Batteries”
- Kept closed
- Structurally sound and compatible with the contents
- Managed to prevent leaks or releases to environment

# Universal Waste

## Consumer Electronics

**Packaging must be:**

- Labeled "Universal Waste Consumer Electronics" or "Universal Waste Electronics"
- Managed to prevent breakage during normal handling conditions

# Universal Waste

## Electric Lamps

### Containers must be:

- Labeled “Universal Waste Electric Lamps,” “Waste Electric Lamps,” or “Used Electric Lamps”
- Structurally sound and compatible with contents of lamps
- Managed to prevent breakage
- Kept closed

# Universal Waste

## Mercury Devices

### Containers must be:

- Labeled “Universal Waste Thermostats,” “Waste Mercury Thermostats,” or “Used Mercury Thermostats”
- Structurally sound, compatible with contents of device with no evidence of leakage or spillage
- Designed to prevent the escape of mercury (e.g. kept closed)

# Universal Waste

## Pharmaceuticals

**Must be managed to prevent release of any universal waste and packaging must be:**

- Be structurally sound and compatible with contents
- Prevent breakage
- Kept closed

# Universal Waste

## Pesticides

### Containers must be:

- Labeled “Universal Waste Pesticides” or “Waste Pesticides”
- Structurally sound and compatible with contents
- Free of evidence of leakage, spillage or damage
- Kept closed

# Tanks

## Tanks must:

- Be labeled “Hazardous Waste”
- Be marked with accumulation date
- Not contain wastes which could cause rupture, leaks, corrosion or other failures
- Be managed to prevent reactions that would threaten human health and the environment
- Be decontaminated (washed) if they previously held incompatible waste before adding waste

# Tanks

## Ignitable & Reactive Wastes Requirements

### Ignitable and reactive wastes must be:

- Treated /mixed so that resulting mixture is no longer ignitable or reactive and does not cause structural damage to the tank
- Stored/treated so it is protected from igniting or reacting

*Note: Generator must also observe the National Fire Protection Association's buffer zone for tanks with ignitable or reactive wastes*

# Tanks

## Controls & Practices to Prevent Spills and Overflows

### Tanks must:

- Have spill prevention controls, overfill prevention controls
- Have ≥ 2 feet of freeboard for uncovered tanks unless equipped with containment structure or drainage or diversion system
- Have secondary containment
- Be certified by a professional engineer

# Tanks

## Certification

**Must obtain a written assessment that is reviewed and certified by an qualified professional engineer that includes:**

- Design standards
- Hazard characteristics of the waste
- Determination performed by corrosion expert if the external shell of a metal tank is in contact with soil or water
- Design considerations if tank affected by vehicles

# Tanks

## Certification

Professional engineer written certification must be kept on file at facility

# Tanks

## Secondary Containment

### Above Ground Tanks must:

Be paved, diked, or curbed or otherwise enclosed to contain not less than 100% of the largest tank

Have 100% containment for each tank if waste is incompatible or the tanks are interconnected

# Tanks

## Secondary Containment

### Secondary Containment must:

- Be constructed of compatible material with sufficient strength
- Have an adequate foundation
- Have leak detection system which is able to detect leaks within 24 hours or earliest practical time
- Be sloped and/or drained so that all liquid is removed within 24 hours or earliest practical time

# Tanks

## Secondary Containment

- Prevent run-on or infiltration of precipitation unless has excess capacity
- Be free of cracks or gaps
- Must cover any area that waste may come in contact with if released
- Be constructed with chemical resistant stops if concrete
- Have impermeable coating compatible with waste if cement

# Tanks

## Secondary Containment

### Under Ground Tanks must:

- Have secondary containment and a leachate withdrawal system
- Have a complete inventory of wastes at least twice monthly
- Have leachate sampled at least annually

# Tanks

## Secondary Containment

### Secondary Containment can be:

- A liner
- A vault system
- A double walled tank

Ancillary equipment requires full secondary containment also!!!

# Tanks

## Secondary Containment

### Vault System must:

- Have 100% capacity of the largest tank within its boundary
- Prevent run-on or infiltration of precipitation
- Be constructed with chemical resistant water stops in all joints

# Tanks

## Secondary Containment

### Vault System must:

- Have a compatible impermeable interior coating
- Provide against vapor formation and ignition if storing ignitable or reactive waste
- Have an exterior moisture barrier

# Tanks

## Inspection Requirements

**Inspect each operating day (when present):**

- waste cut off
- monitoring equipment
- tank level

**Inspect weekly:**

- tank integrity/corrosion
- evidence of leaks
- construction materials of tank (corrosion)

**Document inspection for at least 3 years, including date/observations, detection systems, and/or work practice to meet tank inspections**

# Tanks

## Inspection Requirements

**Inspect Cathodic Protection for in ground tanks (if present):**

- Within six months after initial installation, annually after that
- Impressed current at least bimonthly

# Subpart CC Rules

## What are they?

EPA Rules for controlling air emissions

Part 111, Rule 306 (1) and Rule 634 adopts
By reference 40 CFR Part 264, Subpart CC

Certain LQGs and TSDs are subject to one of 3 different sets of requirements under Subpart CC

# Subpart CC Rules

## What are they?

**Container/Tank requirements depend on:**

- the size of container
- the organic content of the waste placed in the container
- whether or not waste stabilization occurs in container

# Subpart CC Rules

TSDs as well as certain LQGs must comply with Subpart CC if they:

- **generate a hazardous waste which has an average volatile organic (VO) concentration ≥ 500 parts per million by weight (ppmw) at the point of waste origination and**
- **it is stored in containers > ~ 26 gallons**

SQGs are exempt from Subpart CC

# Subpart CC Rules
## EXEMPTIONS

## Exemptions:

- Wastewater treatment units
- Elementary neutralization units
- Emergency or spill management units
- Waste recycling units
- Satellite accumulation units
- RCRA empty containers
- If organic content is reduced prior to waste being placed in container

# Subpart CC Rules
## EXEMPTIONS

### Hazardous waste < 500 ppmw

**Records to be kept:**

- Test results
- Date, time, and location of sampling for EACH hazardous waste
- Measurements
- Calculations
- Other documentation

# Subpart CC Rules
## EXEMPTIONS

Records documenting the rationale for the exemption must be reviewed and updated when necessary, at least once every twelve month, and the exemption records must be maintained on site

# Closed Container

## What Is It?

Regulations do not define “closed container”

Requiring containers to be closed is a means to minimize emissions of volatile wastes, to protect ignitable or reactive wastes from sources of ignition or reaction, to prevent spills, reduce the potential for mixing of incompatible wastes and reduce direct contact of personnel with waste

# Closed Container

## Liquid Hazardous Waste

### For containers in storage:

- Cover secured with snap rings bolted
- Bung holes capped
- If needed, pressure-vacuum relief valve to avoid explosions

### For containers in satellite accumulation:

- Lids properly affixed to prevent spills
- Funnels with manual or spring-loaded lids or tightly screwed into bung hole with a one-way valve

# Closed Container

## Solid Hazardous Waste

Container is closed if there is complete contact between the lid and the rim all around the top of the container

If continuously receiving wastes, containers should be capable of catching and retaining all of the material

# NEED HELP?

- ✓ Go to www.michigan.gov/deqwaste
- ✓ Contact the DEQ EAC at 1-800-662-9278
- ✓ Search the DEQ Publication Center
- ✓ Contact DEQ district waste inspection staff
- ✓ Contact hazardous waste vendors
- ✓ Contact waste consultants